USDA, National Agricultural Statistics Service

Indiana Crop & Weather Report

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Released: August 24, 2009
Vol. 59, WC082409

CROP REPORT FOR WEEK ENDING AUGUST 23

AGRICULTURAL SUMMARY

Some much needed rain fell across most of the state with heaviest amounts being reported in the northern and central districts, according to the Indiana Field Office of USDA's National Agricultural Statistics Service. Reporters feel that this precipitation will help with pod fill in soybeans and will also be beneficial to grain weight in the corn crop. However, some irreversible crop damage has been sustained by the dry conditions over the last several weeks. White mold, aphids and sudden death syndrome (SDS) continue to be problems in some soybean fields. Cutting of tobacco and apple harvest began in some southern counties.

FIELD CROPS REPORT

There were 4.4 **days suitable for field work** during the week. Sixty-six percent of the corn is in **dough** compared to 69 percent last year and 85 percent for the 5-year average. Corn **condition** is rated 62 percent good to excellent compared with 64 percent last year at this time. Ninety-five percent of the **soybean** acreage is **blooming** compared with 95 percent last year and 98 percent for the 5-year average. Seventy-six percent of the soybean acreage is **setting pods** compared to 76 percent last year and 90 percent for the 5-year average. Soybean **condition** is rated 62 percent good to excellent compared with 59 percent last year at this time.

The **third cutting** of **alfalfa hay** is 44 percent complete compared with 68 percent last year and 69 percent for the 5-year average.

LIVESTOCK, PASTURE AND RANGE REPORT

Pasture condition improved slightly and is now rated 66 percent good to excellent compared with 43 percent last year at this time. Livestock remain in mostly good condition.

CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg.
	Percent			
Corn in Dough	66	42	69	85
Corn in Dent	9	NA	20	44
Soybeans Blooming	95	90	95	98
Soybeans Setting Pods	76	62	76	90
Alfalfa – 3rd Cutting	44	29	68	69

CROP CONDITION TABLE

Crop	Very Poor	Poor	Fair	Good	Excel-lent
			Percent		
Corn	3	8	27	50	12
Soybean	3	8	27	51	11
Pasture	2	7	25	47	19

SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

	This Week	Last Week	Last Year
		Percent	
Topsoil			
Very Short	3	11	14
Short	12	24	40
Adequate	70	54	45
Surplus	15	11	1
Subsoil			
Very Short	4	8	12
Short	16	26	31
Adequate	67	55	55
Surplus	13	11	2
Days Suitable	4.4	5.9	6.6

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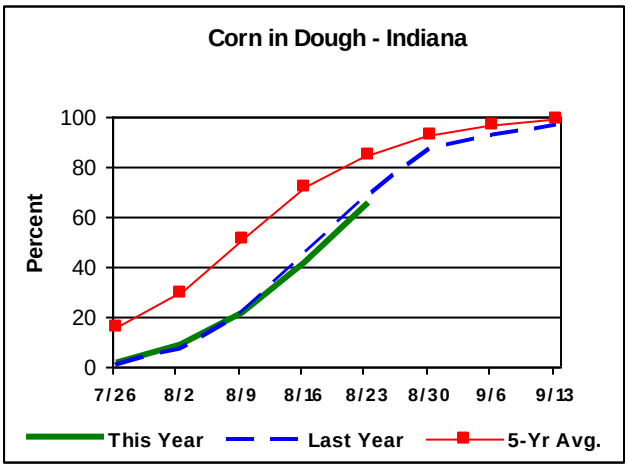
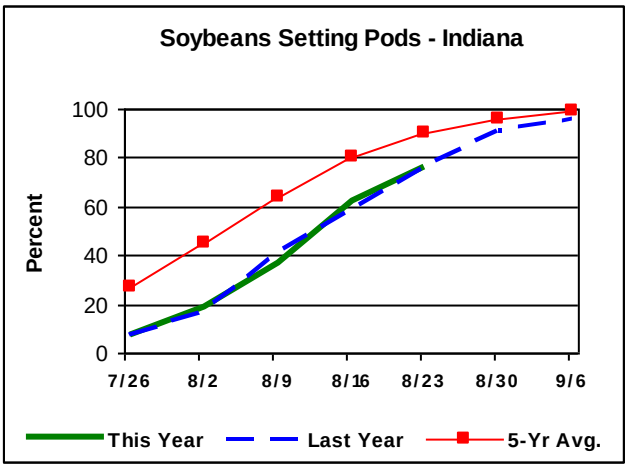
http://www.nass.usda.gov/Statistics_by_State/Indiana/





Other Agricultural Comments And News

White Mold (Sclerotinia Stem Rot)

White mold of soybean, also called *Sclerotinia* stem rot, is present throughout most of the northern states. It is considered a minor disease in Indiana, but can cause significant damage in infested fields. The areas at greatest risk are northern Indiana (north of Interstate 70) and states further north. Cool, wet conditions during early reproductive stages favor disease development when the pathogen is present. The disease is often most severe in varieties that have a denser, faster-closing canopy.

Symptoms
White mold first becomes apparent when single plants within a generally healthy canopy wilt and die rapidly in July and August. Leaves remain on the stem but turn brown, and the entire plant dies.

Close inspection of the lower stem reveals a bleached area, often originating from a leaf axil and extending 2 to 6 inches in each direction along the stem. When a lesion girdles the stem, the tissue above it dies — not all the stem tissue will die, but all leaf tissue generally dies. Under moist conditions the bleached area may be covered with the fungus' fluffy white mycelium. Eventually, black, oblong structures, from 1/8-inch to 3/4- inch long, may be visible in the center of the bleached area.

These black structures, called sclerotia, also develop inside the stem, and can be easily seen when the stem is split in the bleached area. Sclerotia are the fungus' survival structures. Sclerotia are initially soft, but harden with age. The sclerotia's interior is white or pink. When cutting, the inside of the fungal bodies is clear.

Infected plants may produce no seed. Yield loss from this disease in a field depends on the number of infected plants and the stage when the plants are killed.

Causal Agent
White mold is caused by *Sclerotinia sclerotiorum*, a fungus that has a wide host range, including alfalfa, beans, canola, clover, peppermint, potato, sunflower, and tomato. It can also infect several weed hosts, such as amaranths, castor bean, dandelion, lambsquarters, ragweed, and velvetleaf.

Disease Cycle
Sclerotia can persist in the soil for several years. Although they decline over time, it apparently takes only a few to generate the density of ascospores needed for an epidemic. When conditions are favorable and the sclerotia are within 1 inch of the soil surface, light brown fruiting bodies of the fungus, called apothecia, emerge from the soil. The apothecia are 1/8-inch to 3/4-inch diameter, and consist of a cuplike structure on a short stalk. Spores are produced on the surface of the cuplike structure, and are forcefully ejected when they mature.

Apothecia can be confused with the sporulating structures of bird's nest fungi. Bird's nest fungi are frequently observed on old corncobs found on the soil surface in minimum tillage systems. This fungus, although intriguing for its beauty, does not cause any disease on soybean.

Wind currents transport the spores produced by white mold apothecia to soybean plants, where they can cause infections under wet, humid conditions. Spores can infect any part of the plant, but senescing flowers seem to be a common point of infection. When it infects a flower, the fungus grows down through the flower stalk (pedicel) and invades the stem. Floral infection explains why stem lesions are commonly centered at a node. They also appear to infect at points where dead flower parts adhere to the plant and provide a nutrient source for infection. Once in the plant, the fungus consumes plant nutrients and eventually girdles the stem, killing the tissue above the lesion.

Sclerotia are similar in size and density to soybean seed and can easily end up in the grain bin when seed from an infected soybean crop is harvested. Some sclerotia are ejected from the combine in stem tissue, which can distribute sclerotia over more of the field. The combine can also transport sclerotia to uninfested fields following the harvest of an infested site.

Because sclerotia survive in the soil, soil movement could also transport inoculum from one field to another. Once sclerotia find conducive conditions in the field and are about 1 to 2 inches from the soil surface, they will produce apothecia and initiate new infections.

Management
White mold management is difficult when environmental conditions are favorable for the disease. The sclerotia can remain in the soil for several years, and lose their viability slowly. The most effective defense against white mold is to keep the fungus out of a field, but this can be difficult.

Avoid harvesting disease-infested fields before harvesting healthy fields unless the combine can be cleaned thoroughly. If a field with white mold is harvested, clean the combine before moving to fields with no history of the disease. If white mold is restricted to a portion of the field, that restricted area should be harvested last and independently from the rest of the field. If

(Continued on Page 4)

Weather Information Table

Week Ending Sunday, August 23, 2009

Station	Past Week Weather Summary Data							Accumulation				
								April 1, 2009 thru August 23, 2009				
	Air Temperature				Precip.		Avg 4in Soil	Precipitation			GDD Base 50°F	
	Hi	Lo	Avg	DFN	Total	Days	Temp	Total	DFN	Days	Total	DFN
Northwest (1)												
Chalmers_5W	90	53	71	-1	2.73	5		19.10	+0.91	59	2089	-306
Francesville	90	53	70	+1	2.76	5		20.11	+1.96	54	2035	-174
Valparaiso_AP_I	92	58	72	+2	0.77	5		14.67	-4.13	55	2140	-44
Wanatah	91	55	70	+2	1.45	6	76	17.25	-1.10	59	1948	-142
Winamac	90	55	72	+2	2.67	7		16.10	-2.05	61	2102	-107
North Central(2)												
Plymouth	92	55	71	+1	2.38	7		18.04	-0.37	72	2017	-296
South_Bend	92	57	71	+1	4.90	6		21.64	+3.96	55	2142	-31
Young_America	86	54	69	-2	1.47	5		18.57	+1.23	47	2136	-131
Northeast (3)												
Fort_Wayne	92	58	73	+2	3.84	4		20.14	+3.75	58	2236	-34
Kendallville	93	60	73	+3	2.44	6		17.96	+1.02	65	2256	+122
West Central(4)												
Greencastle	87	51	71	-3	1.40	4		29.13	+8.55	63	2093	-460
Perrysville	92	54	72	+1	4.53	5	73	29.23	+9.65	61	2366	-19
Spencer_Ag	89	56	73	+2	1.31	4		29.89	+8.81	64	2321	-87
Terre_Haute_AFB	90	54	73	+2	1.97	2		22.53	+2.99	53	2575	+33
W_Lafayette_6NW	90	51	71	+1	3.47	5	77	24.17	+6.01	60	2255	-5
Central (5)												
Eagle_Creek_AP	90	58	74	+2	0.90	4		26.61	+8.17	60	2530	+9
Greenfield	88	56	73	+2	2.39	5		30.35	+10.03	63	2261	-154
Indianapolis_AP	90	57	75	+3	0.79	4		29.93	+11.49	58	2609	+88
Indianapolis_SE	89	57	73	+0	1.14	4		32.54	+13.41	63	2261	-244
Tipton_Ag	90	53	72	+3	1.78	4	81	24.28	+5.82	63	2141	-55
East Central(6)												
Farmland	92	52	73	+4	0.83	4	77	16.78	-1.15	58	2174	+31
New_Castle	86	56	72	+2	2.00	6		22.38	+2.79	61	2085	-109
Southwest (7)												
Evansville	91	56	76	+1	0.59	4		23.55	+4.89	58	2983	+53
Freelandville	90	57	74	+1	1.29	5		29.08	+9.63	58	2601	-25
Shoals_8S	89	52	73	+0	0.36	2		29.57	+8.46	55	2373	-165
Stendal	89	56	75	+2	0.55	3		30.41	+9.54	56	2917	+158
Vincennes_5NE	91	60	76	+3	0.58	4	86	28.14	+8.69	62	2711	+85
South Central(8)												
Leavenworth	90	58	75	+3	0.68	3		28.82	+7.19	78	2603	+75
Oolitic	88	56	73	+2	0.25	5	77	26.54	+6.20	67	2381	-46
Tell_City	89	59	76	+2	0.49	2		24.47	+3.15	54	2800	-1
Southeast (9)												
Brookville	90	56	74	+3	1.03	5		23.55	+3.81	60	2445	+142
Greensburg	91	58	74	+3	1.21	6		30.33	+10.54	66	2548	+192
Seymour	89	54	74	+3	0.11	2		27.42	+7.88	55	2359	-71

DFN = Departure From Normal.
GDD = Growing Degree Days.
Precipitation (Rainfall or melted snow/ice) in inches.
Precipitation Days = Days with precip of .01 inch or more.
Air Temperatures in Degrees Fahrenheit.

For more weather information, visit www.awis.com
or call 1-888-798-9955.

the disease is already present in a field, keep sclerotia out of the upper layer of the soil, and prevent the sclerotia from distributing over a wider area.

Planting
In infested fields, some have proposed spacing soybean rows wider apart than optimal for yield. Wider rows allow air to circulate to the soil surface while the crop is starting to flower. This promotes a drier soil surface and lower humidity around the base of the plants, which would interfere with sclerotia development, spore formation, and infection.

However, if it is cool, overcast, and rainy, wide rows may not have any effect on white mold. Moreover, extremely wide rows (more than 30 inches) may actually increase spore dispersal by allowing more air movement near the soil surface. In the absence of the disease, plants grown in 30-inch rows will often not yield as much as those grown in narrow rows.

But if the disease is severe in a field, moving to wide rows may provide some control. Still, while the incidence of white mold in wider rows may be reduced, the yield in wide row systems is seldom higher than narrow row systems. University of Wisconsin researchers advocate not going to 30-inch row spacing to avoid lower white mold potential. Instead, they recommend 15-inch row spacings.

In white mold years, row width has little influence on white mold incidence. Lowering the plant population is a better approach. Avoid planting 200,000 plants per acre regardless of row width. In fields with a history of white mold, 125,000 to 150,000 plants per acre are recommended.

Tillage
Conventional wisdom suggests that burying sclerotia deeply by plowing will reduce white mold. If sclerotia are more than 2 inches below the soil surface, they do not produce apothecia. If a field where white mold was a problem is plowed, the soil should not be further disturbed in subsequent years. But if buried sclerotia are brought to the surface a year to two later, some will still be viable and can produce spores.

However, in recent research in Wisconsin, no-tillage treatments that presumably leave sclerotia on the soil surface were reported to have lower apothecia numbers. Tillage that buries sclerotia would probably also reduce the number of spores produced but may result in greater canopy density compared to no-till, which may offset the benefit of burying sclerotia by increasing disease conduciveness of the canopy environment.

Rotation
Rotating with nonhost crops can potentially reduce white mold incidence. But rotation must be carefully considered since the sclerotia are long-lived and do not necessarily decline sufficiently in one growing season to reduce disease pressure. Also, because of its wide host range, the fungus could reproduce on weeds, which would nullify the effectiveness of the nonhost crop.

Introducing a small grain somewhere in rotation with soybean will eventually result in a lower incidence of white mold. Corn is not a good rotation crop, but small grains are. A corn–soybean–winter wheat rotation has a meaningful impact on white mold. A corn–soybean rotation poses a higher risk situation.

Resistant Soybean Varieties
Partial resistance to white mold has been identified, and seed dealers provide ratings on the resistance levles of their varieties. Breeding efforts continue because partial resistance is prone to being overcome and other disease resistance characteristics may have priority when breeders develop new soybean varieties.

Chemical and Biological Control
Several fungicides can provide some level of disease suppression, but proper timing and good canopy penetration are essential. Fungicide application may be more effective when disease pressure is no more than moderate.

In addition to fungicides, there are reports that several beneficial organisms, when applied to soil, can degrade sclerotia faster than resident soil microbes can. Several of these microorganisms are currently being developed for commercial use. And are in the process of being introduced to the market.

White mold is a severe disease of soybean in isolated areas of the Midwest. When a field has a history of white mold, a combination of strategies that includes resistant varieties, row spacing, tillage, and possibly fungicide applications, should be employed.

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The INDIANA CROP & WEATHER REPORT (USPS 675-770), (ISSN 0443-817X) is issued weekly April through November by the USDA, NASS Indiana Field Office, 1435 Win Hentschel Blvd, Suite 110, West Lafayette, IN 47906-4547. For information on subscribing, send request to above address. POSTMASTER: Send address change to the USDA, NASS, Indiana Field Office, 1435 Win Hentschel Blvd, Suite 110, West Lafayette, IN 47906-4547.